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EXAMINER	
TON, ANTHONY T	

ART UNIT	PAPER NUMBER
2661	8

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/627,680	COLE ET AL.	
	Examiner	Art Unit	
	Anthony T Ton	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21,23,25,28-30,33 and 35-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *33 and 35-42* is/are allowed.

6)☒ Claim(s) *1-21,23,25,28-30,43 and 44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 21** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 recites limitation "**the device**" in line 4. There is insufficient antecedent basis for the limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1-3, 6, 7, 9-15 and 18-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over **British Company** (WO **95/31865**) in view of **Brooks** (US Patent No. **6,452,767**).

a) **In Regarding to Claim 1**: The **British Company (BC) disclosed** a method for determining the suitability of a copper line, used for transmitting voice band signals and having one or more user devices coupled thereto for transmitting signals on the copper line, for use in

transmitting data signals out-of-band with the voice band signals *(see Fig.1: units 5 and 6)*, the method comprising:

applying a test signal at one point in the copper line *(see Figs.1 and 2: the test unit 5; and see page 2 lines 1-5: a noise generator in the test unit 5 sending noise signals (test signals) to exchange unit 6; and lines 3a and 3b are in the copper line 3 (hence, applying a test signal at one point in the copper line as the instant claim))*, the test signal having a known relationship to a particular out-of-band data transmission scheme *(see page 5 lines 20-30)*;

monitoring a response of the copper line to the test signal *(see page 2 lines 5-8: analysis means for analyzing the incoming noise the signals)*, as influenced by the one or more user devices (*see Fig.1: telephone device 1)*; and

determining the suitability of the copper line for data transmission using a particular out-of-band data transmission scheme based on the monitored response of the copper line *(see page 3 lines 12-15; and page 5 lines 25-30)*.

The BC failed to explicitly disclose monitoring a response of the copper line at about the point where the test signal was applied.

Brooks clearly disclosed such monitoring a response of the copper line at about the point where the test signal was applied *(see Fig.6 and col.9 lines 36-67)*.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such monitoring a response of the copper line at about the point where the test signal was applied as taught by Brooks throughout a combination of the test unit 5 and exchange unit 6 as shown in Fig.1 as taught by the BC, so that a copper line can be directly tested at a desired location without any assistance, **the motivation being** to reduce costs.

b) **In Regarding to Claims 2 and 3**: The **BC further disclosed** wherein the particular out-of-band data transmission scheme comprises a digital subscriber line transmission scheme as recited **in Claim 2** *(see page 6 line 9)*; and wherein the particular out-of-band data transmission scheme comprises an asymmetric digital subscriber line (ADSL) transmission scheme as recited **in Claim 3** *(see page 5lines 23-25).*

It would have been obvious to combine the BC and Brooks for the same reason as in Claim 1.

c) **In Regarding to Claims 6 and 7**: It is inherent that the copper line can include a copper network as well as a subscriber line because many copper lines can be constituted a copper network and a subscriber line. Therefore, the rejections in the claim 1 would apply to these two claims.

It would have been obvious to combine the BC and Brooks for the same reason as in Claim 1.

d) **In Regarding to Claim 9**: The **BC further disclosed** wherein determining the suitability of the copper line includes comparing the monitored response of the copper line with an empirically derived template defining a suitable response limit for the copper line *(see page 3lines 12-15: for comparing the measured line attenuation with a predetermined threshold).*

It would have been obvious to combine the BC and Brooks for the same reason as in Claim 1.

e) **In Regarding to Claims 10 - 12**: The **BC further disclosed** wherein applying the test signal comprises injecting a modulated signal into the line at a frequency corresponding to the particular out-of-band data transmission scheme as recited **in Claim 10** *(see page 3 lines 1-8;*

page 5 lines 3-14; and page 5 line 31 – page 6 line 5); wherein monitoring the response of the copper line includes determining whether the modulated signal at the frequency corresponding to the particular out-of-band data transmission scheme is demodulated as recited **in Claim 11** *(see page 3 lines 12 – 23; and page 5 lines 21-27)*; and wherein determining the suitability of the copper line includes the monitored response of the copper line with an empirically derived template defining a suitable response limit for the copper line as recited **in Claim 12** *(see page 2 lines 22-25; page 3 lines 12-15; page 5 lines 25-30; and page 6 lines 6-10).*

It would have been obvious to combine the BC and Brooks for the same reason as in Claim 1.

f) **In Regarding to Claim 13**: The **BC disclosed** a device for suitability of a copper line, used for transmitting voice band signals and having one or more user devices coupled thereto for transmitting signals on the copper line, for use in transmitting data signals out-of-band with the voice band signals *(see Fig.1: units 5 and 6)*, the device comprising:

a signal generator coupled to the copper line at one point *(see Fig.2: noise generator 12)*, the signal generator providing a test signal to the copper line *(see Fig.2: the connection from the generator 12 to the copper line 3 (3a and 3b) via switch 11 and line interface 13)*, the test signal having a known relationship to a particular out-of-band data transmission scheme *(see page 5 lines 20-30)*;

monitoring a response of the copper line to the test signal *(see page 2 lines 5-8: analysis means for analyzing the incoming noise the signals)*, as influenced by the one or more user devices (*see Fig.1: telephone device 1)*; and

a processing unit coupled monitoring circuit to receive the monitored response of the copper line to the test signal and to output an indication of the suitability of the copper line for use in transmitting data signal using the particular out-of-band data transmission scheme *(see Fig.2: PC-based controller 14 (processing unit), data card 15 and line interface and switch 17 (monitoring circuit); and see page 5 line 25-30: traffic lights (output indication))*.

The BC failed to explicitly disclose monitoring a response of the copper line at about the point where the test signal was applied.

Brooks clearly disclosed such monitoring a response of the copper line at about the point where the test signal was applied *(see Fig.6 and col.9 lines 36-67)*.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such monitoring a response of the copper line at about the point where the test signal was applied as taught by Brooks throughout a combination of the test unit 5 and exchange unit 6 as shown in Fig.1 as taught by the BC so that a copper line can be directly tested at a desired location without any assistance, **the motivation being** to reduce costs.

g) **In Regarding to Claims 14 and 15**: It is inherent that the copper line can include a copper network as well as a subscriber line because many copper lines can be constituted a copper network and a subscriber line. Therefore, the rejections in the claim 1 would apply to these two claims.

It would have been obvious to combine the BC and Brooks for the same reason as in Claim 13.

h) **In Regarding to Claims 18 and 19**: The **BC further disclosed** the device further comprising a memory arrangement coupled to the processing unit for storing an empirically

template defining a limit for a suitable response of the copper line to the test signals for the particular out-of-band data transmission scheme as recited **in Claim 18** *(see label 15 in Fig. 3 and page 6 line 15)*; and wherein the processor is adapted to compare the monitored response of the copper line with the empirically derived template and output an indication that the copper line is suitable for the particular out-of-band data transmission scheme when the monitored response is within the limit defined by the empirically derived template as recited **in Claim 19** *(see page 2 lines 22-25; page 3 lines 12-15; page 5 lines 25-30; and page 6 lines 6-10).*

It would have been obvious to combine the BC and Brooks for the same reason as in Claim 13.

i) **In Regarding to Claim 20**: The **BC disclosed** a method for determining the suitability of a copper line, used for transmitting voice band signals and having one or more user devices coupled thereto for transmitting signals on the copper line, for use in transmitting data signals out-of-band with the voice band signals *(see Fig.1: units 5 and 6)*, the method comprising:

applying a test signal at one point in the copper line within a subscriber's premises *(see Figs.1 and 2: the test unit 5; and see page 2 lines 1-5: a noise generator in the test unit 5 sending noise signals (test signals) to exchange unit 6; and lines 3a and 3b are in the copper line 3, and the test unit 5 is being placed between the master socket 4 and the telephone device 1 (hence, applying a test signal at one point in the copper line within a subscriber's premises as the instant claim))*, the test signal having a known relationship to a particular out-of-band data transmission scheme *(see page 5 lines 20-30)*;

monitoring a response of the copper line to the test signal within a subscriber's premises *(see page 2 lines 5-8: analysis means for analyzing the incoming noise the signals)*, as influenced by the one or more user devices (*see Fig.1: telephone device 1)*; and

determining the suitability of the copper line for data transmission using a particular out-of-band data transmission scheme based on the monitored response of the copper line *(see page 3 lines 12-15; and page 5 lines 25-30).*

The BC failed to explicitly disclose monitoring a response of the copper line at about the point where the test signal was applied.

Brooks clearly disclosed such monitoring a response of the copper line at about the point where the test signal was applied *(see Fig.6 and col.9 lines 36-67).*

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such monitoring a response of the copper line at about the point where the test signal was applied as taught by Brooks throughout a combination of the test unit 5 and exchange unit 6 as shown in Fig.1 as taught by the BC so that a copper line can be directly tested at a desired location without any assistance, **the motivation being** to reduce costs.

j) **In Regarding to Claim 21**: The claimed subject matters of the limitations disclosed in the claim 13 are the same as in this Claim. Therefore, **the BC** would apply the rejection in the claim 13 to this claim in a test unit as taught.

It would have been obvious to combine the BC and Brooks for the same reason as in Claim 13.

5. **Claims 4, 5, 8, 16 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **British Company** (WO **95/31865**) in view of **Brooks** (US Patent No. **6,452,767**) as applied to

claims 1, 13, 20 and 21 above, and further in view of **Mannering et al.** (US Patent No. **6,137,839**).

a) **In Regarding to Claim 4**: **The BC and Brooks disclosed** all aspects of this claim as set forth in claim 1.

Both **the BC and Brooks failed to disclose** one or more user devices comprise a plurality of user devices including at least one telephone and at least one computer.

Mannering et al. disclosed such a plurality of user devices *(see Fig.2A: devices 212-218).*

It would have been obvious to one having ordinary skill in the art at the time the invention was made can employ such a plurality of user devices as taught by Mannering et al. to the customer premises of the BC for a purpose of a multiple usage, **the motivation being** to provide data devices and telephones can be used simultaneously.

b) **In Regarding to Claim 5**: The **BC further disclosed** the method further comprising determining a need for a filter at location of at least one of the telephone and computer to separate voice band signals and out-of-band signals transmitted on the copper line based on the monitored response of the copper line *(see page 5 lines 15-30: in this paragraph the BC disclosed that the captured signal is compared with a predetermined threshold to evaluate the line's suitability for ADSL. For example, the predetermined threshold may line within the range of 50dB to 60dB at 300kHz. In addition, the exchange unit may be configured so that the output is a simple decision as to whether or not the line 3 suitable for ADSL. Hence, a need for a filter can be determined by such comparison, evaluation and configuration based on the monitored response of the copper line).*

It would have been obvious to combine the BC and Mannering et al for the same reasons as in Claims 1 and 4.

c) **In Regarding to Claim 8**: **The BC and Brooks disclosed** all aspects of this claim as set forth in claim 1.

Both the BC and Brooks do not explicitly teach the suitability of the copper line includes determining whether any of the one or more user devices has a non-linear characteristic based on the monitored response of the copper line.

Mannering et al. teach such a non-linear characteristic device based on the monitored response of the copper line *(see Fig.1: the test line device 115A and the devices located in the CP #1. For example, while the devices 135 and 150 are being used by customers, another customer may enter the telephone 125; this would cause interference at the copper line 105, and this will induce a non-linear characteristic at the line 150. Hence, the device 125 has a non-linear characteristic based on the monitored response of the copper line collected by the test line device 115A).*

It would have been obvious to one having ordinary skill in the art at the time the invention was made can employ such a plurality of user devices as taught by Mannering et al. to the customer premises of the BC for a multiple usage, **the motivation being** to provide both PC and telephones can be used simultaneously.

d) **In Regarding to Claim 17**: **The BC and Brooks disclosed** all aspects of this claim as set forth in claim 1.

The BC, Brooks and Mannering et al. do not explicitly teach a monitoring circuit as that of the Applicant. **However**, the monitoring circuit with a resistor coupled in series between

a signal generator and a copper line, an Op Amp whose input terminals coupled to two sides of the resistor respectively, and an A/D converter coupled to the output of the Op Amp is a design choice to evaluate test results based on test signals applied to the copper line, so that the suitability of the cooper line can be determined throughout the test results. Therefore, it would have been obvious to one of ordinary skill in the art can employ such a monitoring circuit of the BC or Mannering et al., as taught by the Applicant in order to monitor the current strength of a current flowing into the copper line, **the motivation being** to reduce costs of testing devices.

e) **In Regarding to Claim 16**: A current-to-voltage transducer as taught by the Applicant is just a resistor as described in claim 17 above. Therefore, the rejections on claim 17 would apply to claim 16 in a monitoring circuit as taught.

It would have been obvious to combine the BC and Mannering et al for the same reason as in Claims 13 and 17.

6. **Claims 25, 43 and 44** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bingel et al.** (US Patent No. **6,014,425**) (provided by IDS paper #4) in view of the **British Company** (WO **95/31865**).

a) In Regarding to Claim 25: Bingel et al. disclosed a communication system, comprising:

a communication line *(see lines 101 in Fig.1);*

a plurality of user devices coupled to the communication line *(see devices located in Customer Premises #1 to #N in Fig.1)*; and

a computer system coupled to the communication line *(see label 150 in Fig. 1; col.6 line 40 – col.7 line 19; and col.7 lines 20-52)*, the computer system comprising:

a modem adapted to communication over the communication line over the communication line using an out-of-band data transmission protocol *(see modems 110 line 101 in Fig.1; see and Title in page 1 and label 250 in Fig.2 for DSL (hence out-of-band data transmission protocol))*; and

a test unit adapted to determine the suitability of the communication line for use in transmitting data signals using an out-of-band data transmission protocol, monitor a response of the communication line to the test signal as influenced by the user devices, and output and indication of suitability of the communication line for use in transmitting data signals based on the response *(see Figs 1 and 2; col.5 lines 17-46; and col.7 line 53 – col.9 line 42).*

Bingel et al. failed explicitly teach the test signal having a known relationship to a particular out-of-band data transmission scheme on the communication line.

The BC disclosed such a test signal having a known relationship to a particular out-of-band data transmission scheme on the communication line *(see page 5 lines 20-30).*

It would have been obvious to one of ordinary skill in the art can employ such a protocol of Bingel et al., as taught by the BC so that a test signal can have a known relationship to the out-of-band data transmission protocol on a communication line, **the motivation being** to monitor a response of the communication line in order to determine the suitability of the communication line.

Bingel et al. also failed to teach a computer system being adapted to contact a vendor for supplying service using out-of-band data transmission over the modem, and provide the vendor with physical location information associated with the communication line and receive service availability data based on the physical location information.

However, **Bingel et al. teach** an Internet network that connected to customer premises, and particularly **Bingel et al disclosed** a plurality of customer premises connected to the subscriber line 101 as shown in Fig.1; based upon this connection, for example, one of the customer premises can be a vendor. Therefore, such a vendor can be contacted by a customer premises via the subscriber line 101 in a purpose for receiving a service.

Therefore, **It would have been obvious** to one having ordinary skill in the art at the time the invention was made can provide such a computer system being adapted to contact a vendor for supplying service using out-of-band data transmission over the modem, and provide the vendor with physical location information associated with the communication line and receive service throughout the testing apparatus of Bingel et al, so that a customer premises can communicate with a vendor via the subscriber line, **the motivation being** to request a service from a vendor effectively and more quickly.

b) **In Regarding to Claim 43**: **Bingel et al. disclosed** a method for determining the suitability of a copper line, used for transmitting voice band signals and having one or more user devices coupled thereto for transmitting signals on the copper line, for use in transmitting data signals out-of-band with the voice band signals the method comprising:

monitoring a response of the communication line to the test signal as influenced by the user devices *(see Figs 1 and 2; col.5 lines 17-46; and col.7 line 53 – col.9 line 42)*;

disconnecting at least one of the user devices from the communication line *(see Figs 7A and 7B; col.7 line 53 – col.8 line 65; and col.5 lines 31-34);*

repeating the monitoring if the at least one user device disconnected from the communication line is an interference *(see col.8 line 36-49)*.

Bingel et al. failed to disclose the step of determining a need for a filter at location of at least one of user devices based on the monitored response.

The BC disclosed such determining a need for a filter at location of at least one of user devices based on the monitored response *(see page 5 lines 15-30: in this paragraph the BC disclosed that the captured signal is compared with a predetermined threshold to evaluate the line's suitability for ADSL. For example, the predetermined threshold may line within the range of 50dB to 60dB at 300kHz. In addition, the exchange unit may be configured so that the output is a simple decision as to whether or not the line 3 suitable for ADSL. Hence, a need for a filter can be determined by such comparison, evaluation and configuration based on the monitored response of the copper line).*

It would have been obvious to one having ordinary skill in the art at the time the invention was made can employ such a determining a need for a filter at location of at least one of user devices based on the monitored response as taught by the BC to the customer premises of the Bingel et al. for filtering low and high frequencies, **the motivation being** data devices and telephones can be used simultaneously without any interferences.

c) **In Regarding to Claim 44**: **Bingel et al. further disclosed** the method further comprising iteratively disconnecting each of the user devices and repeating the providing, monitoring, and determining steps to determine if any of the user devices disconnected from the

communication line are interfering devices *(see col.7 line 53 – col.8 line 65; col.5 lines 31-34;and col.8 lines 35-49)*.

It would have been obvious to combine Bingel et al and the BC for the same reasons as in Claim 43.

7. **Claims 23 and 28-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bingel et al.** (US Patent No. **6,014,425**) (provided by IDS paper #4) in view of the **British Company** (WO **95/31865**), and further in view of **Mannering et al.** (US Patent No. **6,137,839**).

a) **In Regarding to Claims 28 and 29**: **Bingel et al. disclosed** a communication system, comprising:

a communication line *(see lines 101 in Fig.1);*

a plurality of user devices coupled to the communication line *(see devices located in Customer Premises #1 to #N in Fig.1)*; and

a computer system coupled to the communication line *(see label 150 in Fig. 1; col.6 line 40 – col.7 line 19; and col.7 lines 20-52)*, the computer system comprising:

a modem adapted to communication over the communication line over the communication line using an out-of-band data transmission protocol *(see modems 110 line 101 in Fig.1; see and Title in page 1 and label 250 in Fig.2 for DSL (hence out-of-band data transmission protocol))*; and

a test unit adapted to determine the suitability of the communication line for use in transmitting data signals using an out-of-band data transmission protocol, monitor a response of the communication line to the test signal as influenced by the user devices, and output and indication of suitability of the communication line for use in transmitting

data signals based on the response *(see Figs 1 and 2; col.5 lines 17-46; and col.7 line 53 – col.9 line 42)*, wherein,

the computer system is adapted to instruct a user to disconnect certain of the user devices from the communication line, and the test unit is adapted to iterate its function of providing the test signal, monitoring the response, and outputting the indication of the suitability of the communication line for each disconnection *(see Figs 7A and 7B; col.7 line 53 – col.8 line 65; and col.5 lines 31-34)*, the computer system is adapted to identify and interfering from among the user devices based on the iterative responses generated by the test unit *(see col.8 lines 35-49)*.

Bingel et al. failed explicitly teach the test signal having a known relationship to a particular out-of-band data transmission scheme on the communication line.

The BC disclosed such a test signal having a known relationship to a particular out-of-band data transmission scheme on the communication line *(see page 5 lines 20-30)*.

It would have been obvious to one of ordinary skill in the art can employ such a protocol of Bingel et al., as taught by the BC so that a test signal can have a known relationship to the out-of-band data transmission protocol on a communication line, **the motivation being** to monitor a response of the communication line in order to determine the suitability of the communication line.

Bingel et al. also failed to teach a recommend installation of a local filtering device between the interfering device and the communication line.

Mannering et al. disclosed such a local filtering device between the interfering device and the communication line *(see Figs.5a and 5b: modem splitter 130 in the modem 500 and low and high pass filers at the line port and DSL port in the splitter in Fig.5b)*.

It would have been obvious to one having ordinary skill in the art at the time the invention was made can employ such a local filtering device between the interfering device and the communication line as taught by Mannering et al. to the customer premises of the Bingel et al. for filtering low and high frequencies, **the motivation being** data devices and telephones can be used simultaneously without any interferences.

b) **In Regarding to Claim 23**: **Bingel et al. further disclosed** the particular out-of-band data transmission protocol comprise a digital subscriber line (xDSL) transmission protocol (*see DSP 250 in Fig.2).*

It would have been obvious to combine Mannering et al, the BC, and Bingel et al for the same reasons as in Claims 28 and 29.

c) **In Regarding to Claim 30**: **Bingel et al. further disclosed** the test unit is adapted to store an empirically derived template defining a limit for suitable response of the communication line to the test signal for the particular out-of-band data transmission protocol, compare the monitored response of the communication line with the empirically derived template, and output an indication that the communication line is suitable for the particular out-of-band data transmission protocol in response to the monitored response being within the limit defined by the empirically derived template *(see col.6 line 41-62; col. 5 lines 31-33; and col.7 lines 20-52).*

It would have been obvious to combine Mannering et al, the BC, and Bingel et al for the same reasons as in Claims 28 and 29.

Allowable Subject Matter

8. **Claims 33 and 35-42** are allowed.

Response to Arguments

9. Applicant's arguments with respect to claims 1-21, 23, 25, 28-30, 33 and 35-44 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T Ton whose telephone number is 703-305-8956. The examiner can normally be reached on M-F: 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Olms can be reached on 703-305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ATT
5/17/2004

KENNETH VANDERPUYE
PRIMARY EXAMINER